

REMARKS

This Amendment responds to the Office Action dated September 3, 2003 in which the Examiner rejected claims 1-3, 5, 7-9, 11-15, 19-21, 23 and 24 under 35 U.S.C.

§102(b) and rejected claims 4, 6, 10, 16, 18 and 22 under 35 U.S.C. §103.

As indicated above, minor typographical errors in the specification have been corrected. Applicant respectfully requests that the Examiner approves the corrections.

As indicated above, claims 1-24 have been amended for stylistic reasons. Applicant respectfully submits that the amendments are unrelated to a statutory requirement for patentability and do not narrow the literal scope of the claims.

Additionally, claims 1, 7, 12, 13, 19 and 24 have been amended to make explicit what is implicit in the claims. Applicant respectfully submits that the amendments to the claims are unrelated to a statutory requirement for patentability.

Claims 1, 7, 12, 13, 19 and 24 claim an apparatus for obtaining data on a three-dimensional shape. The apparatus comprises a producing device in claims 1, 7 and 12 and a camera in claims 13, 19 and 24. A display device displays images formed by the producing device or camera. A viewpoint variator changes a viewpoint of a three-dimensional image. Claims 1, 7, 13 and 19 additionally claim a position changer for changing a relative positional relationship between the object and the producing device or camera based upon the viewpoint change of data on the three-dimensional shape by the viewpoint variator.

Through the structure of the claimed invention a) displaying images of an object formed by data on both two and three-dimensional shape of the object and b) having a viewpoint variator for changing the viewpoint of the three-dimensional image, as claimed in claims 1, 7, 12, 13, 19 and 24, the claimed invention provides an apparatus which can confirm the entire three-dimensional image easily and can obtain the three-dimensional shape of the image without wasting time. The prior art does not show, teach or suggest the invention as claimed in claims 1, 7, 12, 13, 19 and 24.

Claims 1-3, 5, 7-9, 11-15, 19-21, 23 and 24 were rejected under 35 U.S.C. §102(b) as being anticipated by *Fukui et al.* (U.S. Patent No. 5,566,280).

Fukui et al. appears to disclose a system for producing three dimensional (3D) dynamic images. (col. 1, lines 9-10) The system has a configuration as shown in FIG. 1, which comprises an object data input unit 11, a viewpoint data input unit 12, a reference point determination unit 14, a block object judgement unit 15, a viewpoint data change unit 16, a drawing unit 17, and an object movement generation unit 19, all of which are connected with a data memory unit 13. In addition, the system includes an output unit 18 connected with the drawing unit 17, while the reference point determination unit 14 is connected to the blocking object judgment unit which is connected to the viewpoint data change unit 16 and the drawing unit 17, and the viewpoint data change unit 16 is connected to the drawing unit 17 which is connected to the reference point determination unit 14. The object data input unit 11 enters data of each object such as its shape, color, size, position, orientation, texture, light source position, etc., which are given by a user through

input means such as a keyboard, mouse, image scanner, or other memory devices or communication devices. Similarly, the viewpoint data input unit 12 enters viewpoint data expressed by a camera position of a video camera, a reference point, and a view angle, etc., for example. (col. 3, lines 14-35) These object data and viewpoint data entered at the object data input unit 11 and the viewpoint data input unit 12 are then stored in the data memory unit 13. (col. 3, lines 40-42) The viewpoint data change unit 16 changes the viewpoint data such as the camera position and the reference point stored in the data memory unit 13 according to the data concerning positions and sizes of the imaging target and the blocking object stored in the data memory unit 13 and the previous viewpoint data, when it is judged that the blocking object concealing the imaging target is present by the blocking object judgment unit. The drawing unit 17 produces 3D images from the data stored in the data memory unit 13, and the produced 3D images are outputted at the output unit 18 in a form of a display, a large size screen, or a liquid crystal panel, etc., for example. In a case of changing the position of the object or setting the object in movement, the object movement generation unit 19 generates the movements of the object, and rewrites the data concerning the object in the data memory unit 13. (col. 3, line 57 through col. 4, line 6)

Thus, *Fukui et al.* merely discloses an object data input unit 11 which enters data of each object such as shape, color, size, position, orientation, texture, etc. which are input by a user through an input means.¹¹ Nothing in *Fukui et al.* shows, teaches or suggests a producing device for producing data on both two and three-dimensional shape of an object

as claimed in claims 1, 7 and 12. Rather, *Fukui et al.* merely discloses an object data input unit 11 which enters data input by a user through an input means.

Additionally, *Fukui et al.* merely discloses a drawing unit 17 which produces three-dimensional images from data stored in a data memory unit 13 based upon the object data input by the user, and a reference point based on position of a video camera and object.

Nothing in *Fukui et al.* shows, teaches or suggests a) a display device for displaying two and three-dimensional images based on the data produced by the producing device as claimed in claims 1, 7 and 12 or b) a display device for displaying images of the object formed by data on two and three-dimensional shape of the object based on image data output from a camera as claimed in claims 13, 19 and 24. Rather, *Fukui et al.* merely discloses a drawing unit 17 which produces three-dimensional images from data stored in a data memory unit 13.

Since nothing in *Fukui et al.* shows, teaches or suggests a) a producing device for producing data on both two and three-dimensional shape of an object as claimed in claims 1, 7 and 12 or b) a display device for displaying two and three-dimensional images 1) based on data produced by the producing device as claimed in claims 1, 7 and 12 or 2) based on image data output from a camera as claimed in claims 13, 19 and 24, Applicant respectfully requests the Examiner withdraws the rejection to claims 1, 7, 12, 13, 19 and 24 under 35 U.S.C. §102(b).

Claims 2-3, 5, 8-9, 11, 14-15, 20-21 and 23 depend from claims 1, 7, 13 and 19 and recite additional features. It is respectfully submitted that claims 2-3, 5, 8-9, 11, 14-

15, 20-21 and 23 would not have been anticipated by *Fukui et al.* within the meaning of 35 U.S.C. §102(b) at least for the reasons as set forth above. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 2-3, 5, 8-9, 11, 14-15, 20-21 and 23 under 35 U.S.C. §102(b).

Claims 4, 6, 10, 16, 18 and 22 were rejected under 35 U.S.C. §103 as being unpatentable over *Fukui et al.* in view of *Miramonti et al.* (U.S. Patent No. 5,864,640).

Applicant respectfully traverses the Examiner's rejection of the claims under 35 U.S.C. §103. The claims have been reviewed in light of the Office Action, and for reasons which will be set forth below, Applicant respectfully requests the Examiner withdraws the rejection to claims and allows the claims to issue.

As indicated above, since nothing in *Fukui et al.* shows, teaches or suggests the primary features as claimed in claims 1, 7, 12, 13, 19 and 24, Applicant respectfully submits that the combination of the primary reference with the secondary reference to *Miramonti et al.* will not overcome the deficiencies of the primary reference. Therefore, Applicant respectfully requests the Examiner withdraws the rejection to claims 4, 6, 10, 16, 18 and 22 under 35 U.S.C. §103.

The prior art of record, which is not relied upon, is acknowledged. The references taken singularly or in combination do not anticipate or make obvious the claimed invention.

Thus, it now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested.

If for any reason Examiner feels that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, Applicant respectfully petitions for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

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By: 

Ellen Marcie Emas

Registration No. 32,131

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620